

REMARKS

The amendment merely cancels the method claims pending in the application without prejudice to submitting those claims in a continuation application. The amendment places the application in better condition for allowance or appeal and does not add any new matter to the disclosure.

Applicant submits that the finality of the official action is improper in as much as the new rejection under 35 USC 112, second paragraph was not necessitated by applicants' amendment. Applicant submits that the terms at issue in the new rejection were in the claims from the start of examination. Applicant's amendment did not redefine these terms. Thus, applicant submits that the finality of the rejection is improper.

Regarding the rejection of claim 8 under 35 USC 112, second paragraph, applicant has canceled the method claims.

The invention centers on an improved configuration of metal features for an FET-based MRAM. Specifically, the configuration of the invention can be more reliably manufactured due to the use of a metal shield and conductive strap which are self-aligned with respect to each other. The amendment further clarifies that the metal shield and conductive strap are substantially coextensive. The invention advantageously minimizes the occurrence of shorting between the M2 line and the strap connecting the FET caused by micro-trenching while enabling a reduction in the metal shield thickness for improved performance.

Tsang (US Pat. 6909630) discloses a conventional MRAM-FET configuration where the capping layer (3104) is not self-aligned with and having substantially the same shape as the conductive layer (79). Note Figure 7 of

Tsang. Tsang appears to be silent on the concept of self-alignment, much less the idea that capping layer 3104 be self-aligned with conductive layer 79. Tsang at col. 9, lines 20-50 and Figure 7 do not disclose or suggest the patterning of capping layer 3104 and conductive layer 79 to result in regions 3104 and 79 being substantially coextensive. Thus, applicant submits that Tsang does not disclose or suggest a conductive line structure for FET-based magnetic random access memory (MRAM) device where the metal capping layer is substantially coextensive with the conductive strap for connection with the FET. Tsang also does not disclose or suggest a method for forming such a structure.

Regarding the position stated in the official action that Tsang discloses an overlying metal layer that is coextensive with the underlying metal strap, applicant submits that this interpretation is not supported by Figure 7 of Tsang which shows that conductive layer 79 extends far beyond capping layer 3104. Thus, applicant submits that the foundation of the present rejection is not well founded.

Kim et al. (US Pat. 6806096) discloses an MRAM cell of similar configuration as Tsang in that the conductive strap is not substantially coextensive with the metal shield which contacts the bitline. Thus, the combination of Tsang and Kim et al., fails to disclose or suggest a conductive line structure for FET-based magnetic random access memory (MRAM) device where the metal capping layer is substantially coextensive with the conductive strap for connection with the FET, nor a method for forming such a structure.

For the above reasons, applicants submit that all the pending claims are now patentable over the prior art of record and that the application is in condition for allowance. Such allowance is earnestly and respectfully solicited.

Respectfully submitted,
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